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ABSTRACT

This brief describes multiple risk students and maps their links to settings such as the workplace, church, or the health care system. A secondary goal of the brief is to show that although high-risk students have contact with many social institutions, opportunities for interventions are being missed. Data from the 1995 National Longitudinal Survey of Adolescent Health (Add Health) are used to identify the share of students in grades 7 through 12 involved in multiple health risk behaviors. The extent and pattern among these students of involvement in school clubs, religious services or youth groups, team sports, the workplace, and the health care system are traced. To complement this analysis, differences in social involvement are also studied for students and teens not in school because they dropped out or graduated, using data on multiple risk male adolescents from the 1995 National Survey of Adolescent Males. Findings show that the involvement of multiple risk teens, even those who are not in school, in activities located in a range of settings challenges the perception that risk-taking teens are disconnected. The contact that teens have with these institutions offers at least three ways to influence risk taking and contribute to the development of positive lifestyles. Social settings can be places to connect with multiple risk teens in need of health information and services. These social institutions can be reviewed to identify the types of activities that can be incorporated into programs that attract multiple risk adolescents. It must also be recognized that the involvement of multiple risk teens in these diverse settings brings them into contact with a range of adults and peers with the potential to influence their behavior positively or negatively. (Contains 1 box, 2 figures, 2 tables, and 14 endnotes.) (SLD)

Reaching Out to Multiple Risk Adolescents

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Reaching Out to Multiple Risk Adolescents

Many teenagers participate in behavior that threatens their current and future health. A handful of preventable behaviors, such as substance use, violence, and unprotected sexual intercourse, are responsible for much of the morbidity and mortality in adolescence and early adulthood.¹ There is growing concern for adolescents who engage in more than one of these behaviors at a time. Teens who participate in multiple health risk behaviors face elevated threats to their well-being.

It is often believed that multiple risk teens are socially disconnected and therefore “hard to reach.” The primary goal of this brief is to identify multiple risk students and map where they are—that is, their links to settings such as the workplace, church, or the health care system. A secondary goal in this brief is to demonstrate that although high-risk students have contact with many social institutions, opportunities for interventions are being missed.

We first examine data from the 1995 National Longitudinal Survey of Adolescent Health (Add Health) to identify the share of 7th- through 12th-grade students involved in multiple health risk behaviors. Next, we describe the extent and pattern among these multiple risk students of involvement in any of the following settings: school clubs, team sports, religious services or youth groups, the workplace, and the health care system. To compliment this analysis, we examine differences in social involvement among students and teens who are not in school either because they dropped out or graduated, using data on multiple risk male adolescents from the 1995 National Survey of Adolescent Males (NSAM). The five settings measured in the NSAM are sports, clubs, the workplace, the criminal justice system, and the health care system. (See box 1 for a brief description of Add Health, NSAM, and their relevant measures.)

Multiple Risk Behaviors Among Students

To measure participation in health risk behaviors in Add Health, we identify ten behaviors chosen to reflect key areas of adolescent risk taking: regular tobacco use,

regular alcohol use, regular binge drinking, recent marijuana use, recent use of illicit drugs other than marijuana, physical fighting, carrying a weapon at school, suicidal thoughts, suicide attempt, and unprotected sexual intercourse.² The health dangers associated with these behaviors vary considerably, but each behavior poses a range of potential immediate and long-term health problems. Together, they are responsible for a substantial share of adolescent morbidity and mortality.

A minority of students take the majority of risks.

Figure 1 shows that almost half of students did not participate in any of the identified risk behaviors. One out of four students engage in only one health risk behavior. Fewer than one-quarter engage in two, three, or four of the behaviors under study. Participation in five or more health risk behaviors is reported by 4 percent of students. Cumulatively, only 28 percent of all students in grades 7 through 12 participate in two or more of the ten health risk behaviors under study. We refer to these students as “multiple risk students.”

As figure 2 shows, multiple risk students may be in the minority overall, but they are responsible for the majority of health risk taking. Multiple risk students comprise most of the students involved in nearly all of the 10 risk behaviors examined. For example, among the 14 percent of all students reporting recent marijuana use, most engage in an additional risk behavior; only a small share of marijuana users are single risk takers. Focusing on multiple risk students is an important strategy for reducing the prevalence of many health risk behaviors among adolescents. To inform such efforts, the rest of our analysis maps multiple risk teens’ links to different settings.

Points of Contact Among Multiple Risk Students

All students who engage in multiple risk taking have contact with schools or families.

Since Add Health interviewed at least 7th- through 12th-grade students, all of the multiple risk students identified are in contact with one major institution: school. Schools can influence the health behaviors of their students through formal classroom instruction as well as a wide variety of other activities such as establishing policies prohibiting

cigarette smoking on school grounds, providing access to health care services or counseling, and offering referrals to outside resources. In addition to the content of school health promotion activities, the quality and strength of students' interpersonal connections to their school are also important. Students who report feeling connected to their school are less likely to be involved in behaviors that are detrimental to their health³ and strengthening these connections can be an important prevention strategy.⁴

Outside of school, nearly all multiple risk students identified in Add Health live with a parent or parent-figure. Parents' can be an influential source of information about health issues for their children.⁵ In addition, the quality of teens' relationships with their parents is related to participation in many health risk behaviors.⁶ Efforts to help parents talk to their teens about risk behaviors and to improve the quality of parent-child relationships may be an important strategy to enhance adolescent health and well-being.

In addition to school and family, multiple risk students are involved in many other social settings.

While schools and parents can play important roles in protecting students from health risks, our goal in this brief is to look beyond the classroom and the home for additional opportunities to reach multiple risk students. As table 1 shows, almost all multiple risk students (99 percent) are linked to at least one of the following: school clubs, team sports, religious services or youth group, the workplace, and the health care system. Differences by gender, race, and grade make some of these settings more common among some multiple risk students than others, as discussed below.⁷

Many multiple risk students are involved in extracurricular activities.

Overall, fewer than half of multiple risk students participate in non-sport school clubs. Participation in these clubs is higher among multiple risk girls (56 percent) than boys (37 percent), but similar across racial/ethnic groups and by grade. Almost nine out of ten multiple risk students participate in team sports, either on an organized team or an informal basis.⁸ Participation is slightly greater among multiple risk boys (89 percent) than girls (82 percent). Participation in team sports declines as teens get older.

The majority of multiple risk students, especially African American teens, are involved in faith-based settings.

Two-thirds of multiple risk students attended religious services in the year preceding their interview. Only four out of ten multiple risk teens participated in religious youth groups, with participation declining at older grades. Participation in faith-based organizations, especially in religious youth groups, is much more common for African American students who engage in multiple risk behaviors (50 percent) than for white (36 percent) and Hispanic (35 percent) multiple risk students. It is less common among multiple risk than low-risk students — those who participate in no more than one health risk behavior.

Employment links many multiple risk students to the workplace.

Nearly two-thirds of multiple risk students worked for pay in the four weeks before the interview. Among multiple risk students, employment is more common among older students, males, and non-Hispanic white students, than their peers. Overall, multiple risk students are more likely to be employed than low-risk students (65 percent as opposed to 58 percent).

The majority of multiple risk students had routine contact with the health care system in the past year.

Nearly two-thirds of multiple risk students received a physical exam in the last year. While there is little difference by gender and grade, multiple risk Hispanic students are less likely (58 percent) than white (64 percent) or African American (64 percent) students to have had a recent physical exam. Efforts to reach any of these groups cannot rely on routine visits alone, given the lack of universal routine care. However, health care visits are good opportunities for health education and counseling for students who engage in multiple health risk behaviors.⁹

Reaching Multiple Risk Out-of-School Males

There is a need for efforts to reduce risk taking among out-of-school teen males. Reaching teens who are not in school may be particularly challenging, since schools are a primary source of health education. Data from NSAM shows that among males ages 15

through 19, those who are not in school are more likely than in-school males to engage in multiple risk behaviors (64 percent as opposed to 40 percent).¹⁰

Although out-of-school males are not enrolled in school, evidence shows that they tend to be involved in other social settings. Table 2 reports NSAM data showing that almost all out-of-school males engaging in multiple behaviors were involved in at least one of the six settings examined. It is important to note that since NSAM interviews adolescent males living in households, we don't have information about teens that may be more disconnected and harder to reach, for example, homeless or runaway teens or those living in institutions such as juvenile crime facilities.¹¹

Among adolescent males engaging in multiple risk behaviors, those who are out of school are less connected to sports and clubs, but more connected to employment and the justice system than those in school.

Sports/clubs: Out-of-school males who engage in multiple risks were less likely than male students to be involved regularly in sports (45 percent and 54 percent, respectively) or clubs (19 percent and 38 percent, respectively). Innovative efforts have successfully linked sports and club-related activities with health promotion among high-risk adolescent males.¹²

Workplace: The workplace is one of the most common connections among out-of-school males, suggesting that it may be an important arena or activity to reach this group. Nine in ten multiple risk out-of-school males worked, compared to 78 percent of multiple risk in-school males.

Health care system: Out-of-school males who engage in multiple risks were less likely than multiple risk male students to have had a physical exam (65 percent and 73 percent, respectively), making it more challenging to reach these high-risk males in routine care settings.

Criminal justice system: Involvement in the criminal justice system is also relatively common among multiple risk males, regardless of school status. Among males who

engage in multiple risk behaviors, 59 percent of out-of-school males and 54 percent of in-school males report having ever been picked up by police, arrested, or spent time in jail.

Receipt of Specific Services among Risk Takers

Although high-risk students are in contact with social institutions such as those specializing in health care, where prevention and treatment can occur, many needed services are not being provided. Using Add Health we examine receipt of psychological counseling among suicidal youth and substance abuse treatment among students who report regular binge drinking (see table 3). These behaviors and services were chosen because there is a clear link between the behavior and the intent of the interventional service. Although we are limited in the inferences that can be drawn from this analysis,¹³ the findings strongly suggest that students who engage in risk behaviors which entail a high likelihood of injury, and for which effective interventions are available, are not receiving the appropriate services.

Many students who engage in harmful risk behaviors do not receive appropriate services.

Psychological counseling among suicidal youth: Among students in grades 7 through 12, 13 percent thought about suicide and 4 percent attempted suicide in the year before the interview. Fewer than one-third (29 percent) of students who thought about suicide and only 42 percent of students who attempted suicide received psychological counseling in the past year. Suicidal girls were more likely than suicidal boys to receive psychological counseling, among both students who attempt suicide (44 percent of girls and 35 percent of boys) and those who thought about suicide (32 percent of girls and 24 percent of boys). Regardless of gender, the majority of suicidal teens, a group with severe mental health problems, were not receiving psychological counseling.

Substance abuse treatment among frequent binge drinkers: Among all students, 7 percent report regular binge drinking, that is, they drank five or more drinks in a row on one or more days per week during the last 12 months. Yet not one out of ten of these

students received substance abuse treatment in the same time period. Males are twice as likely as females to report binge drinking (10 percent and 5 percent, respectively) but no more likely than females to receive substance abuse treatment. Similarly, students in 11th and 12th grade are more likely to report regular binge drinking compared to younger students, but are the least likely to receive treatment. Even among the youngest students, however, the proportion of binge drinkers receiving treatment is extremely low (12 percent). Racial/ethnic differences in binge consumption of alcohol are small, but differences in the likelihood of treatment are substantial; African-American binge drinkers are less likely (3 percent) than Hispanic (14 percent) or non-Hispanic white (8 percent) bingers to receive alcohol/drug abuse treatment. The overwhelming majority of students who engage in frequent binge drinking do not receive substance abuse treatment, despite its strong association with negative health outcomes.¹⁴

Conclusions

The involvement of multiple risk teens, even those who are not in school, in activities located in a range of settings challenges the perception that risk taking teens are disconnected. This contact that teens have with institutions offers at least three ways to influence risk taking and contribute to the development of positive lifestyles.

First, social settings can be places to connect with multiple risk teens in need of health information and services. While schools and families are the traditional mechanisms for reaching teens, we need to look beyond these settings for additional places to contact multiple risk adolescents. Health education and intervention programs designed for venues where multiple risk adolescents are involved in other activities offer a way to reach high-risk teens. For example, a health-focused program may partner with a high school to conduct health promotion with athletic teams, reaching some high risk students who may otherwise never seek services. In addition, since multiple risk students are not generally the majority of students in most settings, health promotion efforts will reach a broad audience of teens.

Second, the social institutions that we have highlighted in this brief can be reviewed to

identify types of activities that can be incorporated into programs that attract multiple risk adolescents. For example, since most multiple risk teens are involved in team sports, a health-focused program may sponsor sporting events to attract adolescents who may normally not attend their program. Alternately, job training and placement opportunities may attract multiple risk teens to a program that seeks to reduce risk taking.

Finally, we must recognize that the involvement of multiple risk teens in these diverse settings bring them in contact with a range of adults and peers with the potential to positively, as well as negatively, influence their behavior. Coaches, ministers, advisors, supervisors and doctors all come into contact with multiple risk students, regardless of whether or not the content of their interaction is about health issues. Strengthening these personal relationships and ensuring that the interactions are positive is an additional strategy for reaching multiple risk teens.

However these opportunities are viewed, the important point remains that the overwhelming majority of adolescents, including those who engage in multiple risk behaviors and even those who are not in school, are connected to institutional settings and are involved in activities that provide opportunities for health intervention.

There are many opportunities to reach multiple risk adolescents, since nearly all, even those out of school, participate in social institutions.

- **Efforts to reduce the prevalence of adolescent health risk behaviors must focus on the minority of teens taking the majority of risks.**
- **To reduce adolescents' involvement in risk behaviors, innovative efforts are needed in settings not usually considered for health-related interventions, such as sports, faith-based institutions, the workplace, and the criminal justice system.**
- **Ways to reach out-of-school adolescents in non-school settings, such as the workplace and the justice system, need to be developed.**
- **Students involved in risk behaviors need greater access to targeted services, such as psychological counseling and substance abuse treatment.**

ENDNOTES

1. Sells, C.W. and Blum, R.W. 1996. "Morbidity and Mortality Among U.S. Adolescents: An Overview of Data and Trends." *American Journal of Public Health* 86: 513-519.

2. Health risk behaviors in Add Health include: *Regular Tobacco Use* is defined as using chewing tobacco every day in the last 30 days or smoking cigarettes every day in the last 30 days; *Regular Alcohol Use* is defined as drinking alcohol on one or more days per week during the last 12 months; *Regular Binge Drinking* is defined as drinking five or more drinks in a row, on one or more days per week during the last 12 months; *Recent Marijuana Use* is defined as using marijuana during the last 30 days; *Recent Use of Other Illicit Drugs* is defined as using cocaine, inhalants, LSD, PCP, ecstasy, or other illicit drugs in the last 30 days; *Weapon Carrying* is defined as carrying a weapon such as a gun, knife or club to school during the last 30 days; *Fighting* is defined as getting into physical fight during the last 12 months; *Suicide Attempt* is defined as attempting suicide during the last 12 months; *Suicidal Thoughts* is defined as seriously thinking about suicide during the last 12 months; *Unprotected Intercourse* is defined as not using an effective contraceptive method at last sex during the last 12 months.

3. Resnick M.D., Bearman, P.S., Blum, R.W., et al. 1997. "Protecting Adolescents from Harm: Findings from the National Longitudinal Study of Adolescent Health." *Journal of the American Medical Association* 278(10):823-832.

4. Hawkins, J.D., Catalano, R.F., Kosterman, R., et al. 1999. "Preventing Adolescent Health risk Behaviors by Strengthening Protection During Childhood" *Archives of Pediatric and Adolescent Medicine* 153:226—234.

5. Miller, B.C. 1998. *Families Matter: A Research Synthesis of Family Influences on Adolescent Pregnancy*. Washington, DC: The National Campaign to Prevent Teen Pregnancy.

6. Resnick M.D., Bearman, P.S., Blum, R.W., et al. 1997 "Protecting Adolescents from Harm: Findings from the National Longitudinal Study of Adolescent Health." *Journal of the American Medical Association* 278(10):823-832.

7. Data is presented separately by race/ethnicity, gender, and grade, but only significant differences ($p < .05$) are highlighted in the text. Significance tests were calculated to adjust for the complex sampling design of the Add Health. All estimates are weighted to adjust for students' nonresponse and oversampling.

8. This includes students planning to participate on a school sports team in the current school year.

9. American Medical Association. *Guidelines for Adolescent Preventive Services (GAPS)*. <http://www.ama-assn.org/adolhlth/recomend/recomend.htm>.

10. Health risk behaviors are measured slightly differently in Add Health and NSAM surveys. "Multiple risk" in NSAM refers to engaging in 2 or more of the following behaviors: *Regular Tobacco Use* is defined as a cigarette daily in the last 12 months; *Regular Alcohol Use* is defined as having a drink weekly or daily in the last 12 months; *Regular Binge Drinking* is defined as having 5 or more drinks within a couple of hours 4 or more times in the last 30 days; *Recent Marijuana Use* is defined as using marijuana at least monthly; *Recent Use of Other Illicit Drugs* is defined as using cocaine/crack or injected drugs at least monthly; *Weapon Carrying* is defined as carrying a gun, knife, or other weapon in the last 30 days; *Fighting* is defined as getting into a physical fight in the last 12 months; *Unprotected Intercourse* is defined as not using an effective contraceptive method at last sex in last 12 months.

11. For examples of programs for these high risk groups, see the National Clearinghouse on Families and Youth: www.ncfy.com

12. Sonenstein, F.L., Stewart, K., Lindberg, L.D., et al. 1997 *Involving Males in Preventing Teen Pregnancy*. Washington, D.C.: The Urban Institute. pp.118-122.

13. We are limited in the inferences that can be drawn from this analysis because although both the participation in the behavior and the receipt of the service occurred in the last year, we are unable to determine which occurred first. The direction of effect—of risk behavior on service utilization or of services on decreasing risk behavior—is, therefore, difficult to identify.

14. Windle, M., Shope, J.T., and Bukstein, O. 1996. "Alcohol Use" *Handbook of Adolescent Risk Behavior*, DiClemente, R.J., Hansen

Box 1

The National Longitudinal Survey of Adolescent Health (Add Health) is a school-based study of the health-related behaviors of adolescents in the United States. Interviews were conducted in two stages. In the first stage, students in grades 7-12 attending 145 schools around the nation answered brief paper and pencil questionnaires. In the second stage, in-home interviews were conducted with a subset of students between April and December of 1995. Data for this study come from the approximately 12,000 students participating in both stages of the survey. More information about Add Health and access to data is available at www.cpc.unc.edu/addhealth.

We define participation in the following settings:

Team Sports: Participated in, or planned to participate in, a school sport in the year of the interview or played soccer, football, softball, baseball, etc. in the four weeks before the interview.

School Club: Participated in, or planned to participate in, a non-sport school extracurricular in the year of the interview.

Religious

Institutions: Attended any religious services or religious youth groups in the year before the interview.

Workplace: Worked for pay in the four weeks before the interview.

Health Care: Received a routine physical examination in the 12 months preceding the interview.

The 1995 National Survey of Adolescent Males (NSAM) is a household survey of a nationally representative sample of 15- to 19-year-old males, designed primarily to study AIDS-risk behaviors. Since the NSAM is representative of teenage males living in households, the sample includes both current students and non-students. More information about NSAM and access to data is available at www.socio.com.

We define participation in the following settings:

Sports: Spent 10 or more hours playing sports each week.

School Club: Spent one or more hours a week in a school club or other school activity.

Workplace: Had a full- or part-time job in the 12 months preceding the interview.

Health Care: Received a routine physical examination in the 12 months preceding the interview.

Criminal Justice

System: Had ever been picked up by the police, arrested, and/or spent time in jail.

Table 1
Percent of Low Risk and Multiple Risk Students Participating in Social Institutions
by Grade, Gender, and Race/Ethnicity

	Team Sports (%)	School Clubs (%)	Religious Services (%)	Religious Youth Group (%)	Workplace (%)	Routine Health Care (%)	None Care (%)
<u>Multiple-risk</u>^a							
All	86	45	67	38	64	63	1
Grade							
7-8	91	44	70	45	51	60	3
9-10	87	43	67	42	60	64	1
11-12	82	49	67	32	75	63	0
Gender							
Male	89	37	66	37	68	64	1
Female	82	56	69	40	59	62	2
Race/ethnicity							
Non-Hispanic white	86	45	65	36	70	64	1
Non-Hispanic black	86	44	73	50	48	64	2
Hispanic	86	42	68	35	52	58	2
<u>Low-risk</u>^b	88	56	79	52	58	66	1

^a 2 or more risk behaviors

^b 0-1 risk behaviors

Source: Authors' tabulations from 1995 Add Health.

Table 2
Percent of Multiple Risk Males Ages 15-19
Participating in Social Institutions, by School Status

	Out-of-School Males (%)	In-School Males
(%)		
Sports	45	54
Clubs	19	38
Routine Health Care	65	73
Employment	90	79
Criminal Justice^a	59	54
None	0	1

^aEver picked up by police, arrested, or spent time in jail.

Source: Authors' tabulations from 1995 NSAM.

Table 3:
Percent Engaging in Risk Behaviors and Receiving Specific Services by Grade, Gender, and Race/Ethnicity

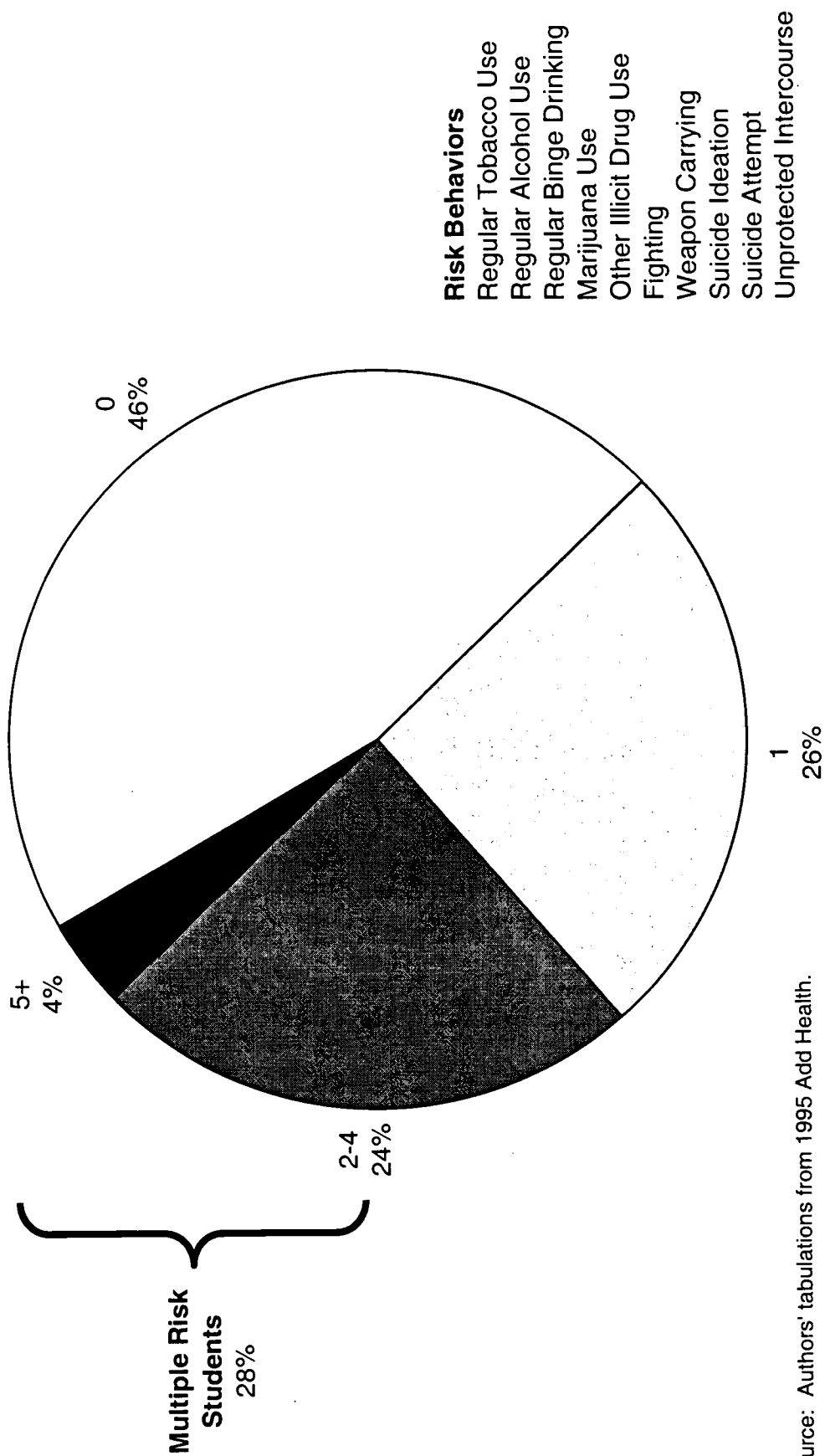
	Suicidal Thoughts		Suicide Attempt		Regular Binge Drinking	
	Prevalence (%)	Share Receiving Psych Counseling (%)	Prevalence (%)	Share Receiving Psych Counseling (%)	Prevalence (%)	Share Receiving Substance Abuse Treatment (%)
All *	13	29	4	41	7	9
Grade						
7-8 grade	11	32	4	41	3	12
9-10 grade	15	28	4	41	7	11
11-12 grade	13	26	3	38	12	7
Gender						
Male	10	24	2	35	10	9
Female	16	32	6	44	5	9
Race/Ethnicity						
Non-Hispanic white	13	30	4	42	8	8
Non-Hispanic black	11	25	4	— ^a	6	3
Hispanic	13	28	4	— ^a	7	14

* "All" includes Asian, Native American, and other racial/ethnic groups.

^a Figure does not meet standard of reliability or precision.

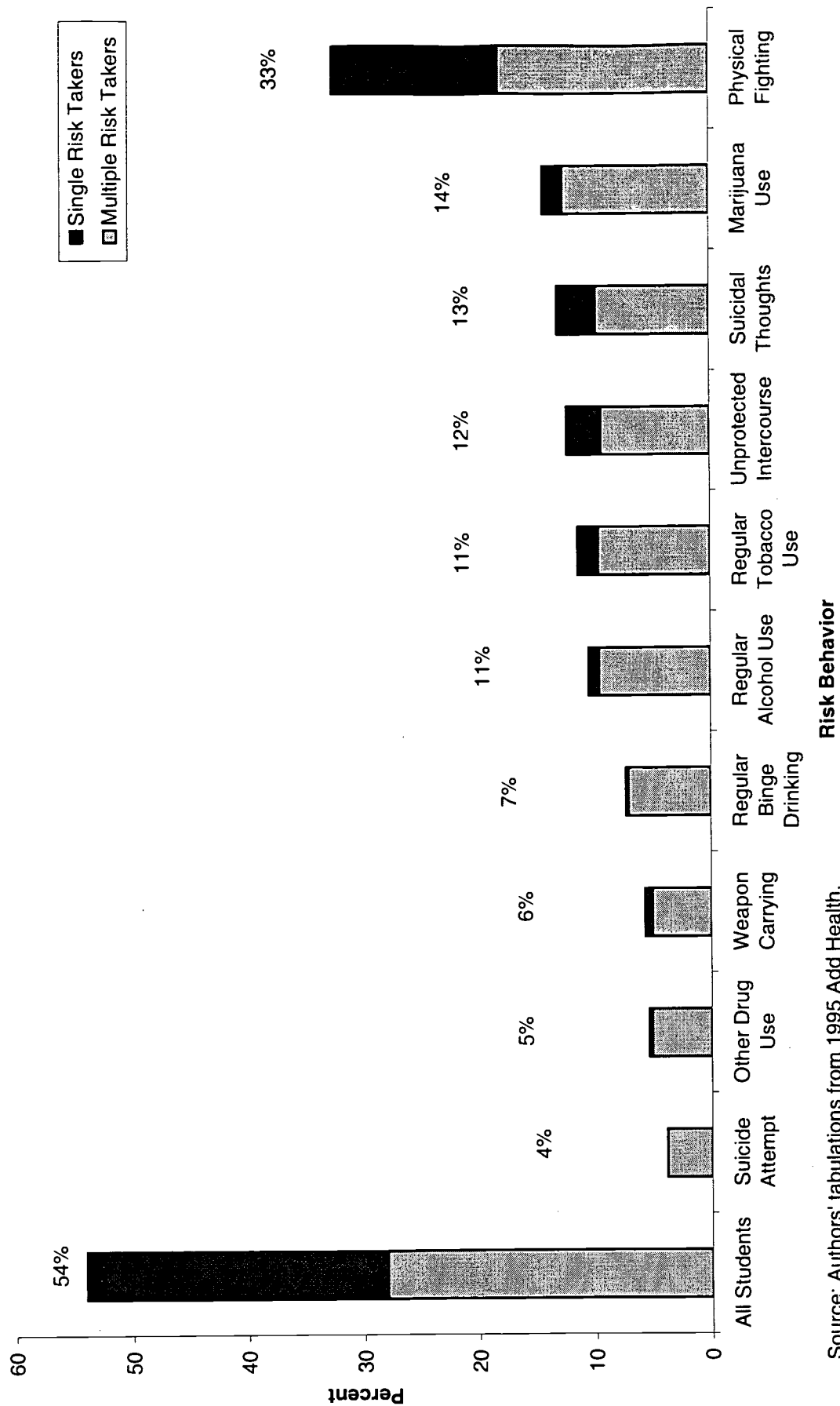
Source: Authors' tabulations from 1995 Add Health.

Figure 1:
Number of Health Risk Behaviors among Students in Grades 7-12



Source: Authors' tabulations from 1995 Add Health.

Figure 2:
Prevalence of Single and Multiple Risk-Taking among Students in Grades 7-12, by Risk Behavior



Source: Authors' tabulations from 1995 Add Health.



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